TRANSPORTATION RevOlutiOn 5 Mississippi Valley Conference

CD/CI

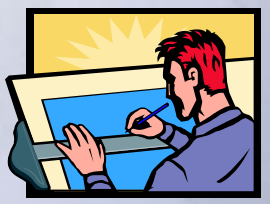
FAST TRACK PROJECT MANAGEMENT

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI

Continuous **D**esign/**C**onstruction **I**nterface

- Integrating construction & design expertise from early planning stages thru project completion



TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI

Benefits

- Minimizes Project Schedule
- Reduces Project Costs
- Retains Owner Control of Project

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI

Applications

- Projects with short design-to-completion deadlines
- Projects with defined budgetary constraints
- Projects involving multiple, concurrent construction contracts

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI

Project Team

- Multi-Discipline Design Team
  - Roadway, Structures, Hydraulics, Traffic, Geotech
- Experienced Construction Managers
- Federal & Local Agency Liaisons
- Utility & R/W Coordinators
- ***Project Manager***

CD/CI Elements

Initial Project Team Session

- Intensive review of project scope
- Basic geometry & MOT decisions
- SS&T and retaining wall types set
- Project breakdown & schedule determined
- Value Engineering reviews

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI Elements

Effective Communications

- Identify contacts with all team members
- Regular coordination meetings
- Use of technology to distribute materials

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI Elements

Construction Expertise Input

- Review for constructability at early stages
- Remain knowledgeable of design decisions as project progresses
- Continued input thru completion

CD/CI

Elements

Continued Design Team Input

- Responsive to RFI's
- Review of Change Orders
- Attend contract scheduling meetings
- Coordinate plans for future contracts

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI Elements

Process Flexibility

- Flexibility within DOT divisions needed
- “Over-the-Shoulder” design review
- Commitment to schedule
- Open lines of communication
- Willingness to learn & share

TRANSPORTATION Revolution 5 Mississippi Valley Conference

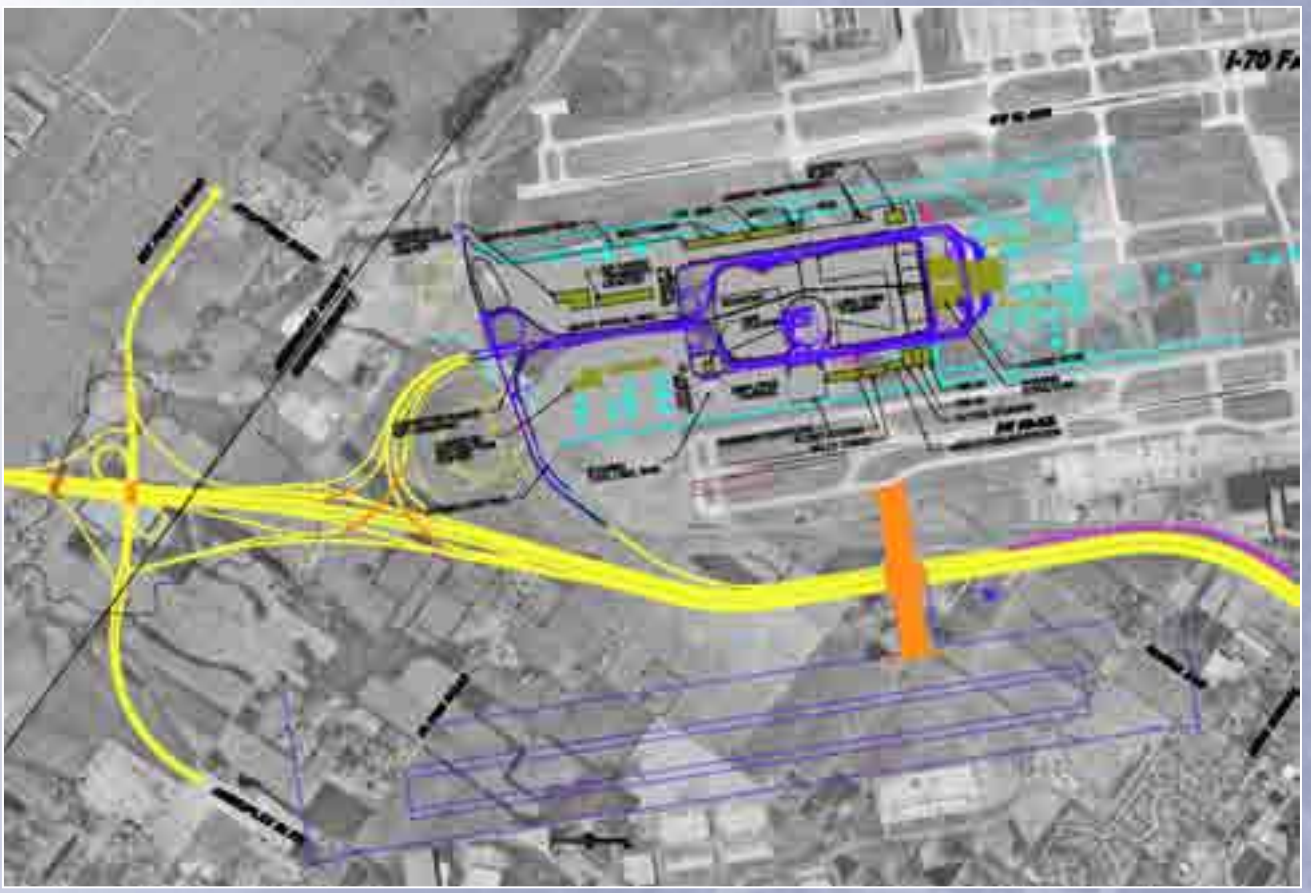
CD/CI 70 FAST TRACK Case Study

Project Scope

- Replace & expand I-70 near the Indianapolis International Airport
- Construct a new interchange for IAA Midfield Terminal
- Realign & depress I-70 for FedEx expansion
- Construct new arterial & interchange to west of airport

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI 70 FAST TRACK Case Study



TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI 70 FAST TRACK Case Study

Project Challenges

- Schedule – Begin 2002 & Open 2004
- Budget – $194 Million total
- Individual Contract Size – < $40 Million
- Environmental – Endangered species, creeks and wetlands
- Utility Relocations – Major electric, water, gas & sewer conflicts

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI 70 FAST TRACK Case Study

Project Design Overview

- Design – Parsons-Brinckerhoff selected March 2002
- Design Budget – $6 Million
- Construction Budget – $180 Million
- Individual Contract Size – < $40 Million
- Location – Environmentally sensitive areas
- Aesthetics - Desired features for Airport Interchange

CD/CI 70 FAST TRACK Case Study

Project Development – "Red Team"

- CD/CI Process suggested by PB
- Initial week long review determined:
  - Basic geometry & profile grade
  - Structure types
  - Major drainage features
  - Design & construction sequence & schedule
  - Contracting scheme

Transportation Revolution 5 Mississippi Valley Conference

CD/CI I-70 FAST TRACK Case Study

Project Development

- Regular Coordination Meetings
  - Design & review teams
  - Utilities
  - Airport Authority & FAA
  - Environmental Regulatory Agencies

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI 70 FAST TRACK Case Study

Project Features

- 4 Miles of Interstate & 2 Miles of Arterial Rd.
- 850,000 Sys of Concrete Pavement
- 10 Bridge Structures – 3 Post-Tensioned
- 3 Million Cys Excavation
- 10,000 Ft of 96” Storm Water Pipe
- 2 Miles of Relocated Creeks
- Major Utility Relocations
- Major Environmental Mitigation

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI 70 FAST TRACK Case Study

Project Delivery

- Seven Individual Contracts
  - 7 Lettings from October 2002 thru September 2003
  - All contracts actively building during Fall 2003 & Spring 2004
  - Regular contract scheduling & coordination meetings held

CD/CI 70 FAST TRACK Case Study

Project Results

- Open to Unrestricted Traffic on Dec. 17, 2004
- Final Construction Cost - $171 Million ($17 Million under budget)
- Project time reduced from 6 to 2 ½ Yrs
- ACEC Award Winner

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI 70 FAST TRACK Case Study

TRANSPORTATION Revolution 5 Mississippi Valley Conference

CD/CI **Continued Success**

- I-465 NW Fast Track Project
  - 4 Contract, $88 Million Project on NW side of Indianapolis
  - Currently under construction
  - Scheduled for opening by Fall 2006

CD/CI

Continued Use

- Accelerate I-465 Project
  - Multi-Contract, $300 Million project on Indianapolis west side
  - 12 Miles of Interstate replacement & expansion
  - 4 Year construction schedule

CD/CI

Projects:

- On Time
- On Budget
- Owner Controlled